

a personas con DM2, complementaria al control y tratamiento de la enfermedad a través de pares, es costo-efectiva respecto a la de educación tradicional.

#### PDB16

##### COSTO EFECTIVIDAD Y COSTO UTILIDAD DEL USO DE UNDECANOATO DE TESTOSTERONA INYECTABLE EN PACIENTES CON HIPOGONADISMO Y DIABETES MELLITUS TIPO 2 EN COLOMBIA

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**OBJETIVOS:** evaluar la costo-efectividad y costo-utilidad del uso del undecanoato de testosterona como terapia de reemplazo y coadyuvancia en pacientes con hipogonadismo asociado a diabetes mellitus tipo 2 en Colombia, desde la perspectiva del tercer pagador. **METODOLOGÍAS:** se diseñó un modelo de Markov tipo Montecarlo, donde se simula la historia natural del hipogonadismo asociado a diabetes mellitus tipo 2, por medio de una cohorte de 1000 pacientes donde se simulan las variaciones en HbA1c trimestralmente y acorde a estas el riesgo de desarrollar eventos macrovasculares o muerte en un horizonte temporal de diez años. Los parámetros fueron utilizados según los intervalos de confianza de los estudios clínicos y los costos se estimaron a partir de bases de datos de aseguradores y presentados en pesos colombianos del 2014. Se corrieron 10.000 iteraciones del modelo y los resultados son presentados en términos de años de vida ajustados por calidad y años de vida. **RESULTADOS:** el uso de undecanoato de testosterona mostró mayor efectividad tanto en años de vida (7,83) como en años de vida ajustados por calidad (6,32) con respecto a no tratar el hipogonadismo que fue de 7,74 y 6,24 para un paciente diabético promedio. Con respecto a los costos, el tratar con undecanoato de testosterona se estimó en \$16.860.744 frente a \$14.060.358 de un paciente sin tratamiento. Al aplicar una tasa de descuento del 5% anual las razones de costo-efectividad incremental serían de \$28.310.750 por años de vida salvados y \$35.794.244 por años de vida ajustados por calidad, valores que estarían por debajo del umbral aceptado para Colombia. **CONCLUSIONES:** el uso del undecanoato de testosterona es costo-efectivo para pacientes con hipogonadismo asociado a diabetes mellitus tipo 2 en Colombia, bajo los desenlaces de años de vida y años de vida ajustados por calidad en las condiciones analizadas.

#### PDB17

##### DIABETES DURATION AND SEVERITY AND LABOUR MARKET OUTCOMES IN MEXICO

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**OBJECTIVES:** To investigate the relationship of different dimensions of diabetes with employment chances, labour income and working hours using panel data and biomarker information for Mexico. **METHODS:** I use three waves (2002, 2005, 2009) of the Mexican Family Life Survey to estimate panel data fixed effects models of the relationship of self-reported diabetes and diabetes duration with labour market outcomes. Further, using glycated hemoglobin (HbA1c) measurements from a sub-sample of survey participants in 2009, I investigate how this relationship changes according to diabetes severity and if there are differences between diagnosed and undiagnosed people with diabetes. **RESULTS:** I find robust evidence for a reduction in employment chances of about 5 percentage points (pp) ( $p < 0.05$ ) for Mexican men and women, while I find no effects for wages or working hours. I also find evidence that the main adverse effects appear within the first two years after diagnosis for women and after about 15 years after diagnosis for men. For diabetes severity, the main adverse effects are found for those with self-reported diabetes and an HbA1c between 6.5%–8%. For undiagnosed diabetes no effects are found. **CONCLUSIONS:** I find robust evidence that diabetes reduces employment chances for men and women in Mexico. The relationship does not appear to be linear with diabetes duration and appears early after diagnosis for women and relatively late for men. So far I find no strong evidence that the severity of diabetes could be an important driver of these adverse effects, however, this last part of the analysis is limited by the cross-sectional nature of the biomarker data and its reduced sample size. Overall, the Results are indicative of an employment penalty of diabetes that might not be solely driven by the health effects of diabetes.

#### DIABETES/ENDOCRINE DISORDERS – Patient-Reported Outcomes & Patient Preference Studies

#### PDB18

##### TYPE II DIABETES PREVALENCE, HYPOGLYCEMIA EPISODES, AND HBA1C CONTROL IN BRAZIL

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**OBJECTIVES:** Diabetes mellitus type II (DM2), a highly prevalent disease worldwide, negatively impacts public health. However, epidemiology data regarding DM2 are very scarce in Brazil. This study aims to understand DM2 prevalence and control of diabetic symptoms, such as HbA1c levels and hypoglycemia, in Brazil. **METHODS:** Data were derived from the 2011 & 2012 Brazil National Health and Wellness Survey, an internet-based general health survey, stratified to be representative of age and gender. Among 24,000 total respondents, 1,026 reported a DM2 diagnosis, further subdivided by HbA1c levels: “controlled,” indicated by HbA1c < 7% ( $n = 57$ ); “uncontrolled,” indicated by HbA1c  $\geq 7\%$  ( $n = 67$ ); and unknown HbA1c ( $n = 902$ ). Additionally, respondents were categorized by hypoglycemia experience in the past three months: not experienced ( $n = 186$ ), experienced ( $n = 701$ ), and unknown ( $n = 139$ ). The Morisky Medication Adherence Scale-4 was used to categorize respondents with no non-adherent behaviors regarding their diabetes medication as “adherent.” Results were weighted to be representative of the adult Brazilian population. One-way ANOVAs and chi-squares were used to examine group differences. **RESULTS:** In Brazil, projected estimates reveal that 4.0% ( $n = 5,585,272$ ) of the adult population have a DM2 diagnosis. Of those diagnosed,

average age was 56.5 years old, 53.2% are female, 54.3% are white, 80.9% have less than a degree, 69.3% make less than \$6,500 annually, 68.4% have public insurance, and 73.5% are overweight or obese. Regarding HbA1c levels, only 4.0% were controlled, 5.4% were uncontrolled, and 90.6% were unknown. Additionally, 17.0% experienced recent hypoglycemia, 69.6% did not, and 13.5% did not know. The majority were taking diabetes medication (86.4%), but only 37.2% were adherent. **CONCLUSIONS:** Although most Brazilian DM2 respondents are currently taking prescription medication, few are adherent to their medication and have adequate knowledge about their symptoms. Considering public health implications of diabetes, awareness, education programs, and pharmaceutical care for DM2 patients may improve adherence to treatment.

#### PDB19

##### RECENT HYPOGLYCEMIA EPISODES ARE ASSOCIATED WITH POORER QUALITY OF LIFE, HEALTHCARE RESOURCE USE, AND WORK IMPAIRMENT AMONG PATIENTS WITH TYPE II DIABETES IN BRAZIL

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**OBJECTIVES:** Hypoglycemic episodes, symptoms presented by patients with diabetes mellitus type II (DM2), are associated with increased mortality and decreased health-related quality of life (HRQoL). However, few studies on hypoglycemia and its relationship to outcomes exist in Brazil. This study investigated the association of hypoglycemia episodes with health outcomes for Brazilian DM2 patients. **METHODS:** Data are analyzed from the 2011, 2012, & 2014 Brazil National Health and Wellness Survey (NHWS), an internet-based general health survey stratified to be representative of age and gender. Among 33,082 total respondents, 1,565 reported having been diagnosed with DM2. Respondents were categorized into groups based on hypoglycemic episodes in the past three months: not experienced ( $n = 1,100$ ) and experienced ( $n = 259$ ). Those whose hypoglycemia was unknown ( $n = 206$ ) were excluded from analyses. Outcomes included HRQoL, work productivity loss, and healthcare resource use in the past 6 months. Generalized linear models were used to control for demographic and health characteristics. **RESULTS:** Recent hypoglycemia was experienced by 16.5% of DM2 respondents (age = 53.47 year; 46.0% female) in Brazil. Controlling for covariates, those with recent hypoglycemia reported worse mean HRQoL for mental (43.78 vs. 47.38), physical (43.92 vs. 47.16), and health utility (0.645 vs. 0.696) scores compared with respondents who did not recently experience hypoglycemia. Respondents with recently (vs. not recently) experienced hypoglycemia also reported higher mean presenteeism (33.5% vs. 20.6%), overall work impairment (37.27% vs. 24.75%), and activity impairment (40.73% vs. 27.90%). Lastly, those with recently (vs. not recently) experienced hypoglycemia reported higher mean number of doctor visits (8.53 vs. 5.87), emergency room visits (0.92 vs. 0.65), and hospitalizations (0.53 vs. 0.26). **CONCLUSIONS:** Recent hypoglycemia episodes are associated with significant burden in HRQoL, healthcare resource use, work-related productivity loss and activity impairment. These Results support the need for development of health strategies to improve outcomes related to DM2 in Brazil.

#### PDB20

##### USE OF COMPLEMENTARY AND ALTERNATIVE MEDICINES (CAM) IN DIABETICS PATIENTS IN QUETTA

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**OBJECTIVES:** The current study aimed to determine the prevalence of Complementary and Alternative Medicines (CAM) and its types used in diabetes patients in Quetta, Pakistan. **METHODS:** A cross-sectional study was undertaken with diabetes patients, attending different government and private hospitals and clinic of Quetta city, Pakistan. A self-administered questionnaire containing 16 questions (5 questions related with disease and remaining questions were for information regarding CAM use). Descriptive statistics were applied to evaluate the patient's demographics. Inferential statistics were used to fine the association between demographics characteristics and CAM ( $p < 0.05$ ). **RESULTS:** A total of 500 questionnaires were distributed and 451 were returned (with response rate of 90.2%). Out of 451 patients 148 (32.8%) used CAM for the diabetes treatment, out of which 87 (58.8%) were females and 61 (41.2%) were males. Most of the participants were uneducated 51 (34.5%) and belongs to large families 89 (60.1%). Fifty (33.8%) participants were using mind body intervention, followed by alternative medical system (33.1%) and herbal products (31.8%) respectively for treatment of diabetes. Type of family, monthly income and per month medicine cost were significant associated ( $p < 0.05$ ) with CAM use. **CONCLUSIONS:** The current study indicated that diabetes patients used mind body intervention, alternative medical system and herbal products are the most common CAM type used for diabetes control. Further research is recommended to evaluate the diabetes control in patients with CAM used.

#### PDB21

##### PURPOSE, BELIEF AND RATE OF DISCLOSURE OF CAM USE AMONG DIABETIC PATIENTS IN QUETTA, PAKISTAN

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**OBJECTIVES:** The objective of current study is to determine the purpose, belief and perception on CAM use by diabetic patients. This study also highlights the rate of CAM disclosure to physician. **METHODS:** A cross-sectional study was undertaken with 148 participants, attending using CAM as mode of treatment in Quetta city, Pakistan. A self-administered questionnaire containing 16 questions was used. Five questions were about diabetes, while remaining questions were on information regarding CAM use. Descriptive statistics were applied to evaluate the patient's